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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,620	11/10/2003	William R. Freeman	15436.250.32.1	4707

22913 7590 03/16/2006

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EXAMINER

NGUYEN, PHILLIP

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 03/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/705,620

Applicant(s)

FREEMAN ET AL.

Examiner

Phillip Nguyen

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 11-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Acknowledgement

1. Applicant has elected group I, claims 1-10 without traverse.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10 rejected under 35 U.S.C. 103(a) as being unpatentable over Di Vita et al. ('488) in view of Peterson ('815).

With respect to claims 1-3, Di Vita discloses in Fig. 2 a microelectromechanical system for controlling the temperature of a heat-generating component which is a laser diode, comprising: a magnetic heat sink device (col. 4, lines 13-18) **except** for a temperature sensor; and control circuitry; wherein the temperature sensor detects the temperature of the heat-generating component through the heat sink device and feeds the sensed temperature to the control circuitry. Peterson discloses in Fig. 6 a device with a laser diode (microchip laser), a heat sink (Peltier cooler element) where the laser is mounted on and a temperature sensor

(thermistor); a control circuitry (controller); wherein the temperature sensor detects the temperature of the laser through the heat sink and feeds the sensed temperature to the control circuit. It would have been obvious to the one having ordinary skill in the art at the time the invention was made to provide a temperature sensor and control circuit receiving feedback from the heat sink to determine the actual temperature of the laser diode to provide the control current or voltage to the laser diode then stabilize the optical wavelength of the light output from the laser by providing the constant temperature as taught by Peterson (col. 8, lines 40-57).

With respect to claim 4, Peterson discloses the control circuit being a processor (col. 9, lines 56-61).

With respect to claim 5, Peterson also discloses the control circuitry comparing the sensed temperature against a predetermined temperature set point (col. 3, lines 52-62).

With respect to claims 6-8, since Di Vita and Peterson disclose the product, it is inherent product by process.

With respect to claims 9-10, Peterson discloses the controller maintains the temperature of the laser within a few degrees in Fahrenheit about room temperature which means it controls the temperature of the laser so that when more heat is detected, more cooling process is applied and when less heat is detected, then the cooling process takes less heat out from the heat sink (col. 6, lines 8-11).

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Communication Information

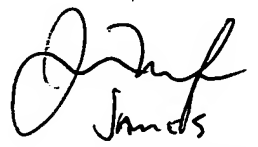
3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phillip Nguyen whose telephone number is 571-272-1947. The examiner can normally be reached on 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MINSUN HARVEY, can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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James
MENEFF